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REMARKS

The above-listed claim amendments along with the following remarks are fully responsive to the Office Action set forth above. Claims 1-9, 11-15, 17-29, 31-34, and 42-46 are amended. New claims 47-54 are added. No new matter is introduced into the application by the claim amendments or the new claims. Claims 16 and 35-41 are cancelled. After entry of this Amendment, claims 1-15 and 17-54 are pending.

Claims 35-46 are withdrawn from consideration as drawn to a non-elected invention. Claims 35-41 are cancelled. The Examiner reserved the right to rejoin the process claims 42-46 if any product claims are found to be allowable. Withdrawn claims 42-46 are accordingly amended.

The Examiner indicated that claim 34 is allowed, and indicated that claims 17, 18, 28, and 29 would be allowable if rewritten in independent form.

The Examiner acknowledged a claim for priority to U.S. App. No. 09/751,650, filed December 29, 2000, now U.S. Pat. No. 6,506,536 (issued January 14, 2003). The Examiner also indicated that a priority claim was made to an international application, PCT/US 01/32120, filed in the United States on October 15, 2001. As the international application did not designate the United States, and as the international application is substantially identical to (and claims priority to) U.S. App. No. 09/751,650, Applicants hereby revoke the claim of priority to international application PCT/US 01/32120. The Specification contains a specific reference only to the U.S. App. No. 09/751,650, which was pending at the time of filing of the present application. The revocation of the claim for priority to the international application is thought proper according to M.P.E.P. § 201.11(III)(G).

Applicants would like to point out for the record that some features of the schematic drawings and chemical structures in the "Detailed Description of the Invention" section of the published application (U.S. Pub. App. 2002/0160299 A1) do not accurately reproduce the schematic drawings and chemical structures depicted in the Specification as filed. For the purposes of examination, reference should be made only to the Specification. The inaccurate reproductions do not affect the interpretation of the present claims.

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In one embodiment, the present invention includes a supramolecular polymer. The term "supramolecular polymer" in the context of the present invention refers to a polymer which derives its polymeric properties through a combination of covalent bonds and specific secondary interactions, which includes hydrogen bonding, particularly two or more centered H-bond links. Such secondary interactions can provide high bond strength and can contribute substantially to the polymeric behavior. See the present Specification at page 10, lines 15-20. The supramolecular polymer includes non-covalent interactions, such as hydrogen bonding, as an integral part of the polymer structure. The hydrogen bonding in the present invention is an integral part of the polymer structure, and is distinguished from hydrogen bonding between a H-donor polymer and a solubility inhibitor having H-acceptor sites. See the Specification at page 2, lines 8-13.

The present invention further includes a two-layer imageable element comprising a thermally imageable composition including the supramolecular polymer. Another embodiment of the invention is a method of producing an imaged element from the two-layer imageable element.

The Examiner stated that claim 1 recites a top layer comprising (a) a first thermally imageable composition comprising a first thermally sensitive supramolecular polymer or (b) a thermally imageable composition free of the thermally sensitive supramolecular polymer. The Examiner interpreted dependent claims 2-16, 32, and 33 as not requiring the presence of a centered H-bond in the top layer. The Examiner took the position that when the top layer according to (b) is selected for claim 1, the limitations of claims 2-16, 32, and 33 are met by any embodiment that meets the limitations of claim 1.

Claims 2, 4, 7, 11, 13, 14, 32, and 33, which depend directly from claim 1, are amended to explicitly recite that the top layer comprises the first thermally sensitive supramolecular polymer. Claim 16 is cancelled. Claims 2-15, 32, and 33 now require the selection of a top layer according to (a). Consideration of claims 2-15, 32 and 33 on the merits is requested.

Claim Objections

The Examiner objected to claim 16 for improper form. Claim 16 is cancelled, rendering the objection moot.

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Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1-16, 19-27, 30, 32, and 33 as anticipated by U.S. Pat. No. 6,352,811 of Patel, *et al.* ("Patel"). Claim 16 is now cancelled. Applicants respectfully submit that claims 1-15, 19-27, 30, 32, and 33 are not anticipated by Patel. Withdrawal of the rejection is requested.

The Examiner stated that in Example 12 (col. 24) Patel demonstrates a two-layer imageable element wherein the first layer includes acrylic resin AR-6, IR dye ADS-830, and indicator dye Victoria Blue BO. The Examiner took the position that resin AR-6 (shown at col. 15) is derived from a monomer that meets the formula recited in the present claim 25. The Examiner also stated that resin AR-6 is furthermore derived from acrylonitrile and methacrylamide monomers, which meet the limitations of present claim 26 and 27. The Examiner further stated that resin AR-6 of Patel has a H-bond within a urea linkage, and that Patel teaches that the -OH group of the AR-6 resin forms hydrogen bonding with Victoria Blue BO.

Applicants respectfully submit that Example 12 of Patel does not anticipate claim 1, nor any claim that depends from claim 1. Claim 1 recites a two-layer imageable element comprising a substrate, a top layer, and a bottom layer disposed between the substrate and the top layer. The top layer comprises a thermally imageable composition comprising: (a) a first thermally imageable composition comprising a first thermally sensitive supramolecular polymer which exhibits an increased solubility in an aqueous developer solution upon exposure to heat; the first thermally sensitive supramolecular polymer comprising: at least one covalently bonded unit; and at least one thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each non-covalently bonded unit or (b) a thermally imageable composition free of the first thermally sensitive supramolecular polymer. The bottom layer comprises a second thermally imageable composition comprising a second thermally sensitive supramolecular polymer which exhibits an increased solubility in an aqueous developer solution upon exposure to heat; the second thermally sensitive supramolecular polymer comprising: at least one covalently bonded unit; and at least one thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each non-covalently bonded unit.

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Claim 1 is not anticipated by Patel for at least the reason that Patel does not report a bottom layer having a thermally sensitive *supramolecular polymer* comprising a covalently bonded unit and a thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each non-covalently bonded unit. As discussed above, the phrase "supramolecular polymer" refers to a polymer which derives its polymeric properties through a combination of covalent bonds and specific secondary interactions, which includes hydrogen bonding, particularly two or more centered H-bond links. Such secondary interactions can provide high bond strength and can contribute substantially to the polymeric behavior. See the present Specification at page 10, lines 15-20. The supramolecular polymer includes non-covalent interactions, such as H-bonding, as an *integral part* of the polymer structure. See the Specification at page 2, lines 8-13. Patel neither teaches nor suggests such a structure.

The Examiner concludes that resin AR-6, which may be capable of participating in hydrogen bonding, meets the limitations of claim 1. Although resin AR-6 used in Example 12 of Patel contains a urea group that is capable of participating in hydrogen bonding, resin AR-6 fails to meet the definition of a supramolecular polymer given above, in that a supramolecular polymer is characterized by hydrogen bonding as an integral part of the polymer structure. This feature is not demonstrated by Example 12 of Patel.

The Examiner points to a teaching in Patel that the -OH group of the AR-6 resin forms hydrogen bonding with Victoria Blue BO, and also states that the AR-6 resin has a hydrogen bond within the urea linkage. Even if the Examiner's assertion is taken as true, the limitations of present claim 1 are not met by Example 12. If the AR-6 resin forms a hydrogen bond with the Victoria Blue BO, it would be a single-centered H-bond and not a two-centered H-bond. As described in the present Specification, the thermally sensitive supramolecular polymer includes a two or more centered H-bond *within each non-covalently bonded unit*. This feature is recited in claim 1. A two-centered H-bonded unit includes two hydrogen bonds formed between groups that are not covalently bound to each other. The association of Victoria Blue BO with AR-6 resin by hydrogen bonding would not result in a two-centered H-bond.

Furthermore, as stated above with respect to the definition of a supramolecular polymer, the H-bonding in the present invention is not between a H-donor polymer and a solubility

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inhibitor having H-acceptor sites. See the Specification at page 2, lines 8-13. Patel reports that Victoria Blue BO is a "reversible insolubilizer;" see Patel at col. 6, lines 49-62. Applicants submit, therefore, that resin AR-6 (and Example 12 of Patel as a whole) fails to provide a thermally sensitive supramolecular polymer comprising a covalently bonded unit and a thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each non-covalently bonded unit.

The Examiner's conclusion that resin AR-6 meets the limitations of any of claims 25-27 is misplaced. Although resin AR-6 of Patel could be derived from a monomer that meets the formula recited in the present claim 25, and could be derived using acrylonitrile and methacrylamide co-monomers as recited in claims 26 and 27, resin AR-6 fails to meet limitations that are recited in claim 1. Claim 25 depends from claims 24, 23, 19, and ultimately from claim 1. Including all intervening limitations, claim 25 in its entirety is directed to an embodiment where the covalently bonded unit in the bottom layer is *derived from* a polymer formed by polymerizing a monomer mixture comprising one or more ethylenically unsaturated monomers having specific functionalities. As discussed above, Resin AR-6 does not provide a thermally sensitive *supramolecular polymer* comprising a covalently bonded unit and a thermally reversible non-covalently bonded unit, which includes a *two or more centered H-bond* within each non-covalently bonded unit.

Example 12 of Patel therefore does not anticipate the present claim 1, or any claim that depends therefrom. Claims 2-15, 19-27, 30, 32, and 33 depend directly or indirectly from claim 1, and recite additional features. Withdrawal of the rejection of claims 1-15, 19-27, 30, 32, and 33 is requested.

Claim Rejections – 35 U.S.C. § 103

The Examiner has rejected claim 31 as unpatentable over Patel in view of U.S. Pat. No. 3,962,513 to Eames ("Eames"). Applicants respectfully submit that the combination of Patel and Eames does not provide a *prima facie* case of obviousness. As discussed above, Patel does not provide all the features recited in present claim 1. Eames does not provide the missing features, and therefore does not overcome the deficiency of Patel. Withdrawal of the rejection is requested.

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Furthermore, since Patel was cited by the Examiner as a reference only under 35 U.S.C. § 102(e), Patel is unavailable as a reference against the present application for the purposes of obviousness. Under 35 U.S.C. § 103(c), subject matter developed by another person which qualifies as prior art only under 35 U.S.C. § 102(e), (f), or (g) and which would otherwise preclude patentability of an invention for obviousness, does not preclude patentability where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

The present application 10/034,982 and U.S. Pat. No. 6,352,811 of Patel, *et al.* were owned by or subject to an obligation of assignment to Kodak Polychrome Graphics LLC, at the time the present invention as claimed in claim 31 was made. A Statement of Common Ownership is not submitted with this paper, but will be provided if the Examiner so requires.

Withdrawal of the rejection of claim 31 is requested.

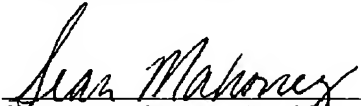
Conclusion

All pending claims are now in condition for allowance. A notice to that effect is respectfully requested.

Respectfully Submitted,

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